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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,385	02/18/2004	Richard O. Ruhr	E14.2-11416-US01	1927

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KINNEY AND LANGE
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MINNEAPOLIS, MN 54415-1002

EXAMINER	
LANG, AMY T	
ART UNIT	PAPER NUMBER
3731	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/781,385	RUHR ET AL.	
	Examiner	Art Unit	
	Amy T. Lang	3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,9-30,35,36,38-49,51,56-58,64-67,69 and 70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 9-30, 35, 36, 38-49, 51, 56-58, 64-67, 69, and 70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 1-4, 15-18, 26-30, 39, 40, 4-49, 51, 57, 5864, 66, 67, and 69** are rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen (US 5,935,914) in view of Li (US 6,214,777 B1) and Zeman (US 6,458,343 B1).

With regard to **claims 1-4, 15-18, 29, 30, and 39**, Theyssen discloses a lubricant concentrate (see entire document) comprising am ether carboxylate having the formula R^1-$(O(CH_2)_m)_nOCH_2COO$-M^+, where R^1 is a linear or branched C_3-C_{18} alkyl group, m is equal to 2 or 3, n is a positive number from 1 to 30, and M is an alkali metal (column 5, l lines 1-20; column 12, line 36 through column 13, line 13). The ether carboxylate is present in the concentrate from 1 to 6wt% (column 15, lines 16-23). Theyssen also discloses additives in the concentrate, including alkoxylated fatty alcohols (column 14,

lines 33-40). Additionally, Theyssen discloses up to 99wt% of well known aids and additives in the lubricant (Column 5, line 30).

However, Theyssen does not specifically disclose a C_9-C_{11} propoxylated alcohol.

Li also discloses a lubricant for conveyor systems (column 1, lines 8-12). This composition is further disclosed as containing a surfactant to increase detergency and lubricity (column 6, lines 59-67). Suitable surfactants include alkoxylated alcohols having 8 to 24 carbon atoms (column 7, lines 18-25). Although Li teaches that ethoxylated alcohols are preferred, the disclosure of the invention is broad enough to encompass propoxylated alcohols. Furthermore, propoxylated alcohols as surfactants are well known in the lubricant art (see column 17, lines 32-45 of De Lima (US 6,589,929)).

Furthermore, Zeman teaches that alkoxylated alcohols are typical and commonly known antifoaming agents (column 41, lines 27-29). Since the instant specification and Declaration do not provide criticality for the two components instantly claimed, it would have been obvious to one of ordinary skill at the time of the invention for Theyssen to utilize an alkoxylated alcohol, which encompasses propoxylated alcohols, for the advantageous and commonly known antifoaming characteristics disclosed by Zeman.

Since Theyssen broadly discloses the use of well known additives including alkoxylated fatty alcohols and Li discloses that C_8 to C_{24} alkoxylated alcohols are advantageous by providing increased detergency and lubricity, it would have been obvious for Theyssen to also utilize the surfactants disclosed by Li.

With regard to **claims 26, 40, and 42**, Theyssen also disclose an anti-foaming agent, a bactericide (a microbial agent), and a corrosion inhibitor in the lubricant concentrate (column 14, lines 41-46).

With regard to **claims 27, 28, and 43**, the lubricant concentrate is diluted with water to a dilution factor of 2 to 10,000, which clearly overlaps the instant claims.

With regard to **claims 44-49, 51, 57, 58, 64, 66, 67, and 69**, Theyssen also discloses the method to lubricate a conveyor surface wherein the lubricant concentrate is applied with a spray nozzle (column 17, lines 25-44).

4. Claims **19-24, 41, 56, 65, and 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen (US 5,935,914) in view of Li (US 6,214,777 B1) and Zeman (US 6,458,343 B1) as applied to claims 1, 30, 44, 57, and 67 above, and further in view of Person Hei (US 5,723,418).

The combination of Theyssen, Li, and Zeman, as discussed above and incorporated here by reference, discloses a conveyor lubricant comprised of ether carboxylates and additional additives.

Theyssen does not specifically disclose (i) an ether amine or diamine additive or (ii) a dicarboxylic acid corrosion inhibitor in the lubricating composition.

With respect to (i) above, Person Hei discloses a lubricating composition for use on conveyor systems (column 1, lines 6-18). The composition comprises an amine compound of formula R_1-O-R_2-NH_2 or R_1-O-NH-R_3-NH_2, where R_1 is a linear C_6-C_{18}, R_2 is a linear C_1-C_8 alkyl, and R_3 is a linear or branched C_1-C_8 alkyl group (column 2, lines

14-26). Either compound, when utilized in a conveyor lubricant, is shown to provide lubricity, antimicrobial character, and reduction in formation of precipitates (column 2, lines 60-67). Person Hei also discloses the ether amine as a mixture of tetradecyloxypropyl-1,3-diamino propane and dodecyloxypropyl-1, 3-diaminopropane utilized in the conveyor lubricant (Table 3, column 7, where C_{12} overlaps dodecyl). When the lubricant comprising this compound was subjected to a mild steel corrosion inhibition test, no visible signs of corrosion were produced (column 7, lines 24-50). Therefore, this compound is advantageous to a conveyor lubricating composition.

Since the scope of Theyssen is open to various additives and specifically discloses an amine compound and Person Hei discloses an amine additive with many advantages in a conveyor lubricant, it would have been obvious for Theyssen to also utilize the amines disclosed by Person Hei. Furthermore, although Person Hei does not specifically disclose the amines as a corrosion inhibitor, they would intrinsically act as one in a lubricating composition.

With respect to (ii) above, Person Hei discloses a dicarboxylic acid corrosion inhibitor, specifically adipic or glutaric, which overlap the instantly claimed formula (column 4, lines 18-21). These specific corrosion inhibitors, when utilized in a conveyor lubricant, were shown to provide corrosion protection against mild steel and acted as an amine neutralizing agent to benefit production cost and efficiency (column 8, lines 5-29). Therefore, since Theyssen is silent as to the specific corrosion inhibitor and Person Hei discloses a specific corrosion inhibitor with various advantages in a conveyor lubricant,

it would have been obvious for Theyssen to also utilize the dicarboxylic acid corrosion inhibitor.

5. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen (US 5,935,914) in view of Li (US 6,214,777 B1), Zeman (US 6,458,343 B1), and Person Hei (US 5,723,418) as applied to claim 24 above, and further in view of Login (US 4,395,373).

The combination of Theyssen, Li, Zeman, and Person Hei, as discussed above and incorporated here by reference, disclose a conveyor lubricant comprised of ether carboxylates. Other additives are included in the composition including corrosion inhibitors and anti-foaming agents.

However, Theyssen does not specifically disclose a phosphated amine oxide.

Login discloses that phosphated amine oxides can be used as corrosion inhibitors and foaming agents (column 9, lines 15-22). Therefore, since Theyssen is silent as to the specific corrosion inhibitor and foaming agent, and Login discloses one compound that can be used for both additives disclosed by Theyssen, it would have been obvious for Theyssen to utilize the phosphated amine oxide in the lubricant composition in order to provide the disclosed corrosion inhibition and antifoam production.

6. **Claims 9-13, 35, 36, and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen (US 5,935,914) in view of Li (US 6,214,777 B1) and

Zeman (US 6,458,343 B1).as applied to claims 1 and 30 above, and further in view of Gerke (US 2004/0072704 A1).

The combination of Theyssen, Li, and Zeman, as discussed above and incorporated here by reference, discloses a conveyor lubricant comprised of ether carboxylates.

However, Theyssen does not specifically disclose the ethoxylation of the ether carboxylate.

Gerke teaches that it is known and common in the art for ether carboxylates to comprise a degree of ethoxylation from 4 to 10 ([0264]). Therefore, it would have been obvious to one of ordinary skill at the time of the invention for the ether carboxylate of Theyssen to also comprise the same ethoxylation.

7. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen (US 5,935,914) in view of Li (US 6,214,777 B1) and Zeman (US 6,458,343 B1).as applied to claims 1 and 30 above, and further in view of Behler (US 4,894,485)

The combination of Theyssen, Li, and Zeman, as discussed above and incorporated here by reference, discloses a conveyor lubricant comprised of ether carboxylates.

However, Theyssen does not disclose using ether carboxylates that are ethoxylated and propoxylated.

Behler discloses an ether carboxylate formed by ethylene oxide or propylene oxide or by the mixture of ethylene oxide and propylene oxide (column 2, lines 23-61).

This corresponds to the ether carboxylate as being ethoxylated, propoxylated, or both. Therefore, Behler teaches the mixture of both ethoxylated and propoxylated ether carboxylates.

Since Behler teaches that it is known in the art to combine ethoxylated and propoxylated ether carboxylates in a mixture, it therefore would have been obvious for Theyssen to use a combination of the two in the lubricating composition. Furthermore, it would have been obvious for Theyssen to also use the combination with 5 moles of ethoxylated ether carboxylates and 2 to 10 moles propoxylated ether carboxylates since it has been held that discovering these optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233 (CCPA 1955)).

Response to Arguments

8. Applicant's arguments, filed 10/12/2007, with respect to Abe (WO 2004/037960 A1) have been fully considered and are persuasive. The rejections have been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy T. Lang whose telephone number is 571-272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on 571-272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

01/02/2008
AR

Todd E. Manahan
SPE 3731